(7)
1886

PROGRESS REPORT

OF

FOREST ADMINISTRATION

IN

AJMERE-MERWARA

FOR

1885-86.

BY

A. E. LOWRIE, ESQUIRE,
ASSISTANT CONSERVATOR OF FORESTS.

WITH REMARKS BY THE ASSISTANT COMMISSIONERS, A REVIEW BY THE COMMISSIONER,

AND

ORDERS BY THE GOVERNMENT OF INDIA.

CALCUTTA:
PRINTED BY THE SUPERINTENDENT OF GOVERNMENT PRINTING, INDIA.
1887.

No. 383F., dated Simla, 12th May 1887.

From—Sir E. C. Buck, Secretary to the Government of India, Revenue and Agricultural Department,

To—The Chief Commissioner of Ajmere.

I am directed to acknowledge the receipt of your letter No. 2290S., dated the 2nd October last, submitting the Report of Forest Administration in Ajmere-Merwara for 1885-86, with a review by yourself, a memorandum by the Commissioner of Ajmere-Merwara, and notes by the Assistant Commissioners of Ajmere and Merwara.

2. No further changes have taken place in the area of the Government Forest Reserves. This was expected; and as the area is considered insufficient to provide for the permanent requirements of the population, proposals were made to augment it by the constitution of Village Forests. During 1884-85 some 33,000 acres of waste land were taken up as Village Forests. It was the intention to place these Forests under a special Regulation, and to administer them for the benefit and profit of the population. The Regulation has not as yet been adopted, and the attempts made to protect the area without rules which can be legally enforced have failed.

His Excellency the Governor-General in Council observes that you consider it essential to a successful protection that these Village Forests should be fenced. This, you say, will involve an expenditure of Re. 1 per acre, and you doubt if it would be either practicable or fair to debit the villagers with the cost. Considering that the protection of the forests in question is intended to benefit more especially the villagers interested, the cost of protecting them cannot well be charged to the general tax-payer; nor has the necessity for fencing as yet been proved, because the watchmen who were placed in charge were unsupported by law. It seems, on the one hand, to be recognised on all sides that the Government Reserves are insufficient in extent to meet the requirements of the country; that the village wastes are utilized in a manner so extravagant as to make it desirable that their management should be subjected to an efficient control, and that no success in this respect can be hoped for without an official pressure such as it would be impossible to exert without a Regulation. On the other hand, the wisdom of resorting to legislation is questioned. His Excellency in Council would, under these circumstances, be glad to receive further proposals from you regarding the necessary increase of resources of forest produce and grazing.

His Excellency in Council observes with pleasure that Reserves have been formed and protected in *Istimrardar* and *Jagirdar* estates, and awaits with interest the results of further enquiries regarding the extent of the Reserves and the nature of the protection really afforded.

3. The external boundaries of the Government Reserves have received sufficient attention, and the cultivation which is included within the forest area is now being specially demarcated by permanent pillars. Fencing of the Reserved Forests by means of *Euphorbia* hedges and dry stone walls is resorted to in Ajmere to a much greater extent than in any other part of India, and was, during the year under review, extended by some 50,000 running feet, at a cost of upwards of Rs. 1,000. A stone wall or hedge is doubtless a most effective means of demarcation; it reduces the necessity on the part of the villagers to watch their herds as carefully as would be necessary in the case of open boundaries, and lessens the danger of unintentional cattle-trespass; but it is costly. I am to request that, in the Report for 1886-87, information may be given regarding the total length of walling and fencing in the Ajmere Reserves and the cost incurred up to date.

4. The record-of-rights for the Forest Reserves is nearly completed. This is a question of great importance, for the value of the rights was estimated—even during the present year, when seasonable rains produced a large grass

crop outside the Reserves, and the number of cattle driven into the forests was thereby largely reduced—to amount to about Rs. 60,000 :—

	Rs.
Grazing	10,000
Grass	47,000
Other forest produce	3,000
Total ...	60,000

During the previous year, the number of cattle belonging to right-holders admitted into the Reserves was more than double, and the Government of India, I am to suggest, should be informed of the principles on which, and the degree to which, the rights of the people are in this respect limited, because an unlimited expansion of these rights might absorb even more than the increasing value of the forests.

Boundary maps have been prepared for nearly all the forests, and it is noticed with satisfaction that all forest works are carried out under pre-considered plans, which as yet, however, are only framed for one year in advance. I am to suggest that it may be considered by you whether the time has not arrived when it will be possible and advisable to frame forecasts for more extended periods—for (say) 5 or 10 years.

5. The following table shows the breaches of the Forest Law which were taken cognizance of during the year under review, and the results of prosecutions :—

Year.	Number of New Cases			Proportion of convictions to total number of Cases decided by the Courts.
	Taken into Court.	Compounded.	Total.	
				Per cent.
1885-86	53	70	123	92
1884-85	47	48	95	90
Increase in 1885-86 ...	6	22	28	2

The percentage of convictions has again risen. The number of cattle impounded for trespass amounted—

In 1885-86 to 3,674
„ 1884-85 to 4,200

showing a decrease of 526 head. The reason for this decrease is said to have been a larger fodder-supply outside the boundaries of the Reserves; but it is noticed that the cause is, in part, ascribed to the fact of a considerable number of cattle having in all probability evaded seizure.

6. The following table exhibits the results of fire-protection :—

Year.	Area, in Square Miles.			Cost.		Proportion of area under Fire-protection to total area of Reserves.
	Attempted.	Failures.	Protected.	Per square mile protected.	Per acre protected.	
		Acres.		Rs.	Pies.	Per cent.
1885-86	144	55	144	4	1	100
1884-85	144	47	144	4	1	100

The success of these operations was again creditable. In addition to the areas fire-protected by Government, some 18 square miles of forest land escaped burning without the adoption of special measures. It is not stated to whom this area belongs.

7. The number of cattle grazing in the Reserves was much less than during the previous year, the decrease being almost entirely due to the smaller number driven in by right-holders, and to the presence of a more ample fodder-supply outside the Government Reserves.

The income derived from grazing amounted to Rs. 1,069; and since the cattle admitted, belonging to right-holders, outnumbered more than ten times those owned by others, the value of the right was at least Rs. 10,000 for the present year and Rs. 23,000 for 1884-85.

There was also a decrease in the quantity of grass removed by right-holders, the value of which is nevertheless estimated at Rs. 47,000. His Excellency in Council is glad to observe that you have not lost sight of the ensilage experiments recommended by the Government of India. It is doubtless more convenient for the villagers to regard and use the State Reserves as a store-house of grass in cases of scarcity than to resort to making silos; but, as the forest grows up, the grass may become scarcer, or it may become necessary and advisable to restrict or commute existing rights; and it will, under any circumstances, be advantageous to accustom the peasantry to a more economical use of the grass resources of the country.

8. Reproduction has this year suffered severely from frost. No remarks have been made regarding the progress of natural reproduction, or the growth of the natural forests; but pattern areas have been selected in order to enable the Forest Officers to study in detail the influence of protection on the forest growth. The cutting back of badly-grown trees and scrub growth has had the most beneficial results, and both *Rhus* and *Zizyphus* have, within three years, regained their former size.

9. The meteorological experiments were continued, and have apparently been carried out with great care, which is satisfactory, as the value of these observations depends entirely on their accuracy.

The catchment area of the Danta tank has been entirely protected since 1882, and the table given in paragraph 56 of the Assistant Conservator's Report gives the following results:—

	1883.	1884.	1885.
Rainfall, in inches	13·14	18·70	20·09
Quantity of water fallen into catchment area, in million cubic feet ...	84	115	116
" " collected in the tank, in million cubic feet	1¾	3½	·4
Percentage of rainfall collected, in million cubic feet	·02	·03	·034

The dams across the valleys are rapidly filling up with silt, and the construction of additional ones should be constantly proceeded with.

10. The financial results of the year under review are, compared with those of the previous year, as follows:—

Year.	Receipts.	Charges.	Deficit.
	Rs.	Rs.	Rs.
1885-86	9,697	16,469	6,772
1884-85	10,456	16,316	5,860
Increase or decrease in 1885-86 ...	—759	+153	+912

There is a deficit of Rs. 6,772; but the value of forest produce supplied to villagers amounts, at a low estimate, to upwards of Rs. 60,000, and a considerable income from the forest growth cannot be expected for years.

11. His Excellency the Governor-General in Council is satisfied with the results of the year's working.

No. 384F.

COPY, with copy of the Report, forwarded to the Government of the North-Western Provinces and Oudh for communication to the Conservator of Forests of the School Circle.

No. 385F.

COPY, with copy of the Report, forwarded to the Foreign Department for information.

C. B. Press, Simla.—No. 113 R. & A. D.—16-5-87.—225

REPORT OF FOREST ADMINISTRATION IN AJMERE-MERWARA FOR 1885-86.

No. 2290S., dated 2nd October 1886.

From the Secretary to the Chief Commissioner of Ajmere, to the Secretary to the Government of India, Revenue and Agricultural Department.

I am directed by the Chief Commissioner to submit herewith the Annual Report of Forest Administration in Ajmere-Merwara for the year 1885-86, accompanied by a copy of the Resolution passed by the Chief Commissioner thereon.

No. 2289S., dated 2nd October 1886.

Resolution by the Chief Commissioner of Ajmere on the Report of Forest Administration in Ajmere-Merwara for 1885-86.

READ—

Progress Report of Forest Administration in Ajmere-Merwara for the year 1885-86, by Mr. A. E. Lowrie, Assistant Conservator of Forests, with Notes thereon by the Assistant Commissioners of the respective Districts and a review by the Commissioner, received under cover of the Commissioner's letter No. 10F., dated the 30th August 1886.

Area and Boundaries.—During the year under review, no changes have taken place either in the total areas or the individual areas of the Ajmere-Merwara Government Forest Reserves. At the end of the last year the total area stood at 92,180 acres, or about 145 square miles. It is expected that the Revenue Survey maps under preparation will entail some corrections in the areas of the Reserves, and the next Report will exhibit the corrected figures.

2. Regarding the proposed Village Reserves, the Assistant Commissioners appear to question the wisdom of resorting to legislation, while admitting that the desired degree of success is not likely to be secured without pressure. Fencing, which is essential to keep cattle off the areas, is an item of considerable expenditure. In the 30,000 acres proposed to be reserved its cost is estimated at ₹30,000. The draft Regulation made the villagers liable for this expenditure; but both the practicability and fairness of this provision being seriously doubted, the areas were, as an experiment, placed under watchmen. The results, though far from successful, may prove useful in illustrating the practical difficulties connected with the scheme. Though the Commissioner has passed over this matter in silence, it will, the Chief Commissioner trusts, receive due attention from him.

3. The Chief Commissioner will await with interest a report on the results of the enquiry stated with regard to the Fodder and Forest Reserves maintained on the Istimrar and Jagir estates. So far as the enquiry has gone, it establishes the existence of Grass Reserves on a system popularly recognized, as described in paragraph 7 of the Assistant Conservator's Report.

4. *Boundaries of the Reserves.*—New boundary pillars were erected at a cost of ₹39-15, and new fencing was constructed and the old one repaired at a total cost of ₹1,145-7. It is satisfactory to notice that every endeavour has been made to push forward works requisite for the demarcation and protection of forest tracts. Efforts were made to induce the villagers to do all work of this kind; but the plan, it is stated, did not succeed, and the work had to be done by contractors.

5. *Surveys.*—Skeleton maps have been received for all forest blocks, except that of Todgarh, which, it is hoped, will be received shortly.

6. *Record of Rights in Forest Reserves.*—This important record is almost complete; but as there are some points which must be settled and attested by the Settlement Officer, the preparation of the final record awaits Mr. Whiteway's return from leave.

7. *Protection of Forests.*—The convictions for breaches of Forest Rules numbered 119*, as compared with 90 for the last year. The somewhat higher percentage of convictions is attributed by the Assistant Conservator to a "more honest working on the part of the Forest Guards." The figures under Class I, however, are as follows:—

* I.—Convictions before a Magistrate . 49
II.—Cases compounded by the Assistant Conservator 70

	1884-85.	1885-86.
Ajmere	30	20
Merwara	13	29

The considerable falling-off in Ajmere was more than counterbalanced by the increase in Merwara. Similar details are not given for the cases of Class II, but it is probable that the variations are not chiefly due to the action of the Guards. Almost all the cases were of a petty nature. The number of cattle impounded for trespass is less by 526 than that of the last year. Ajmere shows a decided improvement in this respect, the number of impounded cattle being reduced from 2,297 to 1,699. In Merwara the number is nearly the same,—*viz.*, 1,975, against 1,903 for the last year. Altogether, the result is more satisfactory than that of the last year, as showing that there was sufficient grazing available outside the Reserves.

8. *Fires in the Reserves.*—The area burnt during the year under review is greater than that of the last year (55 acres, against 47 acres for the last year). 3 acres were burnt through the carelessness of a Forester. The perpetrators in most of the cases were traced and punished. The area of 11,242 acres mentioned in last year's Report was also successfully protected this year, without the adoption of any special measures for its protection. The total expenditure for the protection of forests amounted to R535, or 1·11 pies per acre.

9. *Grazing.*—As compared with last year, the number of cattle admitted to graze on forest ground this year exhibits a decrease of over 55 per cent., the total number for this year being 6,268, against 13,086 for the last year. The numbers of cattle grazed are as follows:—

	1884-85.	1885-86.	Less.
Ajmere—			
Ajmere Tehsil	494	330	— 164
Merwara—			
Beawar	8,030	4,382	— 3,648
Todgarh	4,562	1,556	3,006

Owing to failure of rain in the preceding year, the scarcity of grazing outside the Forest Reserves was felt so severely in the hot season of 1884 that all the Merwara Reserves had to be thrown open to grazing; while in the year under review, the demand being normal in Merwara, grazing was allowed in three tracts only—Biliawas, Todgarh, and Dewair. This explains the decrease under Beawar, but not that under Todgarh, the cattle grazed in this Tehsil during 1884-85 having been only the usual number. The Assistant Conservator records, in paragraph 24, the measures he succeeded in introducing with the object of equalizing the grazing over the blocks, and their beneficial effect on the growth of forest and grass. It is hoped that the decrease in the number of cattle admitted to graze in the Todgarh Tehsil is not the result of those restrictive measures.

10. The quantity of grass removed by the right-holders was somewhat less than last year. This is another proof that the strain on the Forest Reserves was less.

11. *Ensilage.*—No experiments appear to have been made during the year under review. The attention of the Commissioner is invited to paragraph 5 of the Government of India, Home Department's, letter No. 1010F., dated the 19th October 1885, conveying orders on the Report for the year 1884-85.

12. *Natural Reproduction.*—Pattern areas have been selected to secure facility for studying the progress of natural reproduction. It is expected that the next Report will contain a description of the forest growth existing on the selected blocks.

Artificial Reproduction.—The results were mostly disappointing, the heavy frost of December and January having killed both plants and seedlings largely.

Coppicing.—It is recorded that some of the *Rhus* and *Zizyphus* cut in 1883, while growing as scrub, have already attained their maximum growth, and that shoots of Babul, Khejra, Arinja, and Kaonlai have on an average attained a height of 10 feet. These facts seem to point to the direction which the future working of the old scrub growth should take.

Rearing of Exotics.—*Grevillea robusta*: some of these, reared in the Municipal gardens at Ajmere, have attained a fine growth, and it appears they can be successfully grown, provided suitable soil and sufficient moisture is available. The existence of both these conditions in the Forest Reserves is precarious, and the tree can be grown in only a few favoured plots. That the climate does not affect it is beyond doubt. None of the other exotics mentioned by the Assistant Conservator appear to promise permanent success.

Experiments.—It is too early to make any attempt to generalize the results, and the experiments will be continued under careful supervision. A report will be awaited on the subject of the establishment alluded to by the Assistant Conservator.

Financial Results.—The results compare with those of the year 1884-85, as shown below—

Year.	Receipts.	Charges.	Deficit.
	₹	₹	₹
1884-85	10,456	16,316	5,860
1885-86	9,697	16,469	6,772
Increase or Decrease . .	—759	+153	+912

The decease is more than covered by the falling-off on the dues levied on cattle grazed in the Reserves, their number being less by 6,818.

The revenue from the sale of firewood, charcoal, and grass appears to be steadily growing, and the manner in which the working operations have been carried out during the year evinces a desire to secure the greatest advantage possible.

General remarks.—On the whole, the Report describes a satisfactory progress, and exhibits in a clear form all the necessary details.

Ordered, that a copy of this Resolution, together with the original Report and statements, be forwarded to the Government of India under cover of a separate letter.

Memorandum by the Commissioner of Ajmere-Merwara on the Report of Forest Administration in Ajmere-Merwara for 1885-86, dated 30th August 1886.

Areas and Boundaries.—The areas of the Ajmere-Merwara Government Forest Reserves, amounting to 92,180 acres, or 145 square miles, underwent no

change during the year under review. Corrections in these areas, however, according to the new Revenue Survey maps, have yet to be shown, and will be noted in the next Annual Report.

New boundary pillars were erected, and the old ones repaired round some of the lately acquired Reserves, at a cost of about R40.

51,314 running feet of new fencing were done, and 310 running feet were repaired, at a total cost of R1,145-7.

General Protection and Breaches of Forest Rules.—Out of 53 cases, involving 148 persons, brought to trial for breaches of Forest Rules, as against 48 cases and 129 persons during 1884-85, convictions were obtained in 49 cases, involving 118 persons, contrasted with 43 cases and 108 persons last year. The percentage of convictions to prosecutions rose from 89·58 to 92·45.

70 cases, involving 132 persons, were compounded by the Assistant Conservator of Forests. R73 were realized by way of compensation for damage done, against R78-4 last year.

3,674 cattle were impounded during the year—*i.e.*, 526 head less than in the preceding year. This decrease is mainly due to the favourable season.

The fines from cattle impounded amounted to R146-11-3, or R89-11-3 in excess of the preceding year; R90-7-3 being on account of 1884-85.

Fire-Protection.—Fires took place on five different occasions, with the result that altogether 55 acres were burnt, the largest area affected being 40 acres in the Todgarh tract. In each case, except that of Danta, where some 10 acres were injured, the persons who had started the fire were punished.

The total area protected from fire was 92,125 acres. The cost of protection, from 1st July 1885 to 30th June 1886, amounted to R535, or 1·11 pies per acre. Three additional fire lines were burnt in the Merwara forest tracts.

Grazing and Fodder Grass.—Owing to the favourable rains of 1884, and fodder being procurable outside the Reserves, grazing was restricted this year to 6,268 cattle; whereas in the previous year, when the season was unfavourable, 13,086 head were allowed to graze.

Grass was cut freely by right-holders: 5,800 grass permits were issued, and 760,000 bundles of grass are estimated to have been cut and removed from the Forests, against 740,000 bundles last year.

Artificial Reproduction.—The severe frost of December and January last injured the seedlings and plants to a great extent.

The total cost of sowing and planting operations amounted to R1,058.

Meteorological Observations.—These observations were taken as in the previous year, and offer no ground for special remark. To make them more complete and satisfactory, the Assistant Conservator has submitted proposals for a special establishment, which are under consideration.

Financial Results.—The financial results for the past two years are shown in the subjoined table—

.....	1884-85.	1885-86.
	R	R
Receipts	10,456	9,697
Charges	16,316	16,469
Deficit . . .	5,860	6,772

The Revenue has decreased by R759 and the Charges increased by R153.

A large quantity of firewood and charcoal (17,780 maunds firewood and 1,873 maunds charcoal) having been sold from the Reserved Forests, there was an increase of R930 under this head, which is more than counterbalanced by a decrease of R2,214 under head "Grazing and Fodder Grass," owing to only a few of the blocks having been opened to grazing.

Free Grants to Right-holders.—Wood was granted to right-holders free for household and agricultural purposes as usual.

Note by the Assistant Commissioner of Ajmere on the Report of Forest Administration in Ajmere-Merwara for 1885-86.

Area and Boundaries.—The total area (92,180 acres) underwent no change during the year under report. Mr. Lowrie expresses his regret at the failure of the attempt made by the Settlement Officer to preserve grass on 33,000 acres (referred to in last year's Report) during the rains, and I agree with him that no effort in this direction can be speedily successful without special regulation. The people may perhaps be got gradually to see the utility of these grass preserves, but I would deprecate any hasty legislative action.

The enquiries regarding Grass Reserves in the Istimrari estates were not instituted through this Office, which in all probability could have rendered material assistance to the Assistant Conservator in the matter. The matter will, however, now receive my attention, and it is expected that complete information will be given in next year's Report.

Six new boundary pillars were erected, and repairs to the old ones executed where necessary.

310 running feet of fencing were repaired, and 35,924 running feet constructed, at a total cost of R835-12-10. Of the latter, 6,153 running feet were fenced with *Euphorbia* and the rest with dry stone-walling.

Prosecutions.—In the 21 cases brought to trial, 20 convictions, involving 44 persons, were obtained, and only one case was dismissed.

Cattle Impounded.—It is satisfactory to note that the number of cattle impounded fell from 2,297 to 1,699, which is attributable to the prosperity of the season.

Fire-Protection.—Three conflagrations occurred during the year, affecting 12 acres, and the cost of fire-protection amounted to R93, against R124 last year.

Grazing.—Permission was granted to right-holders in the Ajmere District to graze 330 cattle free of dues, as compared with 494 last year. 5,800 grass permits were issued to the villagers of the Ajmere District from 24th November to 9th January. The number of bundles removed during this period is estimated at about 230,000.

Artificial Reproduction.—The results under this head are not perhaps as satisfactory as last year. This is partly attributable to the severe drought in May and June, and the heavy frost in December and January. Of the trees planted along the Khanda-kua Nala, about 40 per cent. are in a flourishing condition. Better results are expected next year, as a new nursery has been started at Bir, from which the seedlings can be transplanted. It is satisfactory to learn that the sandal plantations are doing well. It is reported that the dams constructed last year are fast silting up.

Financial Results.—The Revenue of the Ajmere District fell from R4,415 to R3,867: the decrease is chiefly noticeable under the head "Grass and Grazing." The total Expenditure amounted to R10,668, against R10,320 in the previous year. There is a large decrease under "A, Conservancy and Works," while Establishment Charges show an increase, due chiefly to the increased pay of the Assistant Conservator of Forests.

Note by the Assistant Commissioner of Merwara on the Report of Forest Administration in Ajmere-Merwara for 1885-86, dated 10th August 1886.

1. *Area and Boundaries.*—There was no change in the area of the Reserved Forests in Merwara. New boundary pillars were erected round the Banjari Mandlán, Amner, and Sheopura extension blocks, and the old ones repaired where necessary.

15,390 running feet of stone-walling were newly constructed during the year.

2. *Village Reserves.*—The Village Reserves, as reported by Mr. Lowrie, so far as they concern Merwara, have not been a success. I do not, however, consider it would be judicious to take up any more land; the villagers have not as yet recognized the full benefits to be obtained from these Reserves; and until the advantages from Forest Conservancy have become more apparent, I would not recommend that further advance be made in this direction.

3. *Prosecutions.*—The number of cases tried by Magistrates in Merwara was 32, against 15 in the previous year. With the exception of 2 cases of injury to forests by fire, all other cases were of a petty nature. Out of the total number of cases, convictions were obtained in 29 cases, involving 74 persons.

4. *Cattle Impounded.*—1,975 cattle were impounded, as against 1,903 in the preceding year, showing an increase of 72, which is perhaps due to a larger number of sheep and goats during the year under report.

5. *Fire-Protection.*—43 acres caught fire, 40 in the Todgarh block and 3 acres in Biliawas. The origin of the fire was in both the cases found out, and the culprits punished.

Three new fire-lines were constructed during the year.

6. *Grazing.*—5,038 cattle were allowed to graze in the Biliawas, Todgarh, and Dewair blocks. Besides this, grass was cut freely by villagers from November to March, and the number of bundles thus removed is said to be 530,000.

7. *Artificial Reproduction.*—Notwithstanding the severe heat of May and June and the heavy frost of January, it is satisfactory to note that a fair percentage of bamboos and other forest plants, put out in some of the blocks, have survived.

8. *Financial Results.*—The total Revenue of the Merwara Sub-Division amounted to R5,830, against R6,041 last year. The total Expenditure amounted to R5,800, thereby causing a saving of R30 during the year.

PROGRESS REPORT

OF

FOREST ADMINISTRATION

IN

AJMERE-MERWARA

FOR

1885-86.

INTRODUCTION.

Mr. Lowrie held charge of the Division throughout the year.

2. In the Merwara Sub-Division, Forest Ranger Sahib Roy was away on leave for six months, from the 6th June 1885. The Range work was carried on by Forester Alafkhan and Munshi Panna Lal, Forest Moharir, Beawar.

3. The Kotah State having applied for a Forest Ranger, the services of Babu Sahib Roy were placed at the disposal of the Political Agent. Babu Sahib Roy made over charge on the afternoon of the 7th March 1886 to Babu Nand Mal, who had returned from the Forest School after having obtained his Ranger's Certificate.

CHAPTER I.

Area and Boundaries.

4. The area of the Division stood the same as at the end of last year, and as has been shown in Form No. 49. These areas, however, are subject to correction according to the new Revenue Survey maps. The corrections will be shown in next year's Report.

5. It is a matter of regret that nothing has been done in the matter of Village Reserves. An attempt was made by the Settlement Officer, as far as lay in his power without the passing of any special Regulation, to preserve the grass on the 33,000 acres selected by him, and mentioned in last year's Report, during the rains. The result was a failure, owing to no special rules being passed to stop grazing during this time, and at present the measures for pushing on the matter of Village Reserves, if not dropped, are at a stand-still.

6. Another dispute between the Marwar and Merwara borders was taken in hand during the year. But, as it was found that the land claimed by Marwar was equivalent to a piece belonging to Merwara which had been included in Marwar, the boundary was allowed to stand unaltered.

7. Endeavours were made to arrive at figures for grass areas conserved by Istimrardars in their own lands. The whole area has not yet been sent in; what has been received amounts to 10,230 acres; this does not include the grass lands of the Istimrardars of Masuda, Kharwa, and Bagsuri. It is hoped to give the entire area in the next Report. These areas are closed to grazing as soon as the rains set in; after the rains the villagers cut the grass, and then allow their cattle to graze. The system is a good one where grass lands are only concerned, without very much thought for forest growth.

8. Six new boundary pillars were erected in the Makerwali Hokran block, 153 and 141 in the Banjari Mandlan and Amner blocks; the cost for new boundary pillars being R39-15. The old boundary pillars were looked to and

found in fair order, slight repairs being necessary. The pillars round the Sheopura extension were in hand at the end of the year, and have since been finished.

9. The survey of the patches of cultivation within Forest limits was taken in hand by the Settlement Survey, a special man being sent round to demarcate them with permanent pillars; as soon as the surveys have been finished, they will be plotted on the Forest skeleton maps.

10. 45,161 running feet of dry stone-walling and 6,153 running feet of *Euphorbia* fence were newly constructed along the boundaries of forest blocks during the year. The work of fencing in the new blocks is being pushed on. Only 50 running feet of *Euphorbia* and 260 feet of stone-walling were repaired. The remaining fences of all forest blocks are in fair order. The following table shows the amount of fencing done during the year:—

Names of Tracts.	Repairs.		New.	
	Euphorbia.	Stone.	Euphorbia.	Stone.
	R. ft.	R. ft.	R. ft.	R. ft.
Rajgarh	...	...	6,153	22,267
Srinagar and Bir	...	260	...	431
Makerwali Hokran	...	...	...	7,073
Taragarh	50	...	...	...
Amner	...	...	...	5,800
Banjari Mandlan	...	...	...	9,590
Total	50	260	6,153	45,161

It was hoped to get at least a part of the fencing done by those villagers whose lands were taken up; the plan was not a success, and had to be dropped, the work being given over to contractors.

The total expenditure under "A. VIII. f. (fencing and other works)" was R1,145-12-6. Of this, R0-5-6 was paid for repairs to the Danta dam.

CHAPTER II.

(1).—Surveys and Annual Plans of Operations.

Surveys.

11. The Survey skeleton-maps were received for all forest blocks, except the Taragarh one. It is hoped to receive this shortly.

Annual Plans of Operations.

12. Plans of operations were drawn up, as usual, for the year's working. With the exception of a few cases, nearly the whole of the works proposed were either completed or are under construction.

Record of Reserves.

13. A record for all forest blocks was drawn up and sent on to the Settlement Officer for correction. They have been received back; but as some of the points noted by him require resetting on the spot, the matter has been left pending his return from leave.

CHAPTER III.

(1).—Protection and Improvement.

Establishments.

14. As noted in paragraph 3, the services of Forest Ranger Sahib Roy were lent to the Kotah State, Nand Mal, who was sent to the Forest School at

Dehra Dun and obtained his Ranger's Certificate, taking his place on a salary of ₹50 a month. Babu Nand Mal has been highly spoken of by the Director of the Forest School.

(2).—General Protection and Breaches of Forest Law.

15. The total number of cases tried by Magistrates was 5 in excess of last year; the results of prosecutions were as follows:—

Year.	Convictions.		Acquittals.		Total.	
	Cases.	Persons.	Cases.	Persons.	Cases.	Persons.
1884-85	43	108	5	21	48	129
1885-86	49	118	4	30	53	148
Difference . .	+6	+10	—1	+9	+5	+19

The percentage of convictions is somewhat higher than that of last year, due, no doubt, to more honest working on the part of the Forest Guards. Full particulars of the nature of the cases are given in Form No. 50. With the exception of three cases of injury to forests by fire, all cases were of a petty nature.

16. There were 70 cases, involving 132 persons, compounded by the Assistant Conservator in Ajmere and Merwara. All cases, except one for carelessly lighting a fire in the forest, were of a petty nature. The sums realized by compensation amounted to ₹73.

17. The cattle impounded during the year were 526 head less than last year. The following table gives the result:—

District.	Cattle impounded.	
	1884-85.	1885-86.
Ajmere	2,297	1,699
Merwara	1,903	1,975
Total .	4,200	3,674

Of the 3,674 head of cattle impounded, 1,392 head were sheep and goats. The year was an average one for fodder outside the forest tracts; but it may here be mentioned that, from the very wasteful way in which the villagers graze their cattle, there is little or no grass outside forest limits at the best of times. The number of cattle impounded from the new tracts amounted to 767 head; this was by no means the whole amount which were illicitly driven into forest limits to graze. Judging from the state of the grazing, numbers must have got off unpunished.

18. The fines realized from cattle impounded amounted to ₹446-11-3; ₹90-7-3 of this sum were realized on account of 1884-85.

(3).—Forest Fires.

19. The area burnt this year was somewhat in excess of last year, in all 55 acres. Forty acres were burnt in the Todgarh block, compartment No. II, through the carelessness of some of the contractor's camel-men; the men were prosecuted and fined ₹15. 10 acres were burnt in the Danta block by some men, who were removing dry wood, having lit a fire for the purpose of smoking. The

case was tried, but, owing to insufficient evidence, the men were dismissed. 3 acres were burnt, through the carelessness of the Forester, while burning one of the Biliawas fire-lines; the man was fined. One acre in the Nag Pahar and one in the Mohwa Bir blocks were burnt, through men, who were removing grass, lighting a fire for the purpose of smoking. Both cases were tried and convicted, the men being fined R25 and R20 respectively.

20. The total expenditure during the season, from 1st July 1885 to 30th June 1886, amounted to R535, or 1-11 pies per acre.

21. The following new lines were burnt during the year:—

Line along Debi-ka-ghata, Todgarh block.

A fire-line through the Banjari Mandlan block.

A fire-line along the Meywar border of the Amner block.

The area of 11,242 acres mentioned in last year's Report was also successfully protected, without any special measures being taken for their protection.

(4).—Grazing and Fodder Grass.

22. The monsoon of 1884 was above the average, so that grazing was only allowed in the blocks of Biliawas, Todgarh, and Dewair, where this could be done without injury to forests. All these blocks are in the Merwara Sub-Division.

23. The following table shows the number of cattle allowed to graze, as compared with last year:—

Name of Tehsil.	1884-85.		1885-86.	
	Right-holders.	Out-siders.	Right-holders.	Out-siders.
Ajmere	494	...	330	...
Beawar	7,732	298	4,070	312
Todgarh	4,163	399	1,326	230
Total	12,389	697	5,726	542

The 330 cattle grazing in the Ajmere Tehsil were allowed to graze free of dues, provision having been made, when the Rajgarh block was first taken up, to allow this number of cattle from the villages of Mayapur, Neharpura, and Kothaj to graze from the 15th of February to the setting in of the rains. The villagers of Srinagar, as usual, grazed their cattle in the area opened for them, from the 1st November to the setting in of the rains.

24. Endeavours were made to get the villagers grazing in the Todgarh block to take their cattle on to selected stations, where the cattle would be located during the time they were allowed to graze; the object being to equalize the grazing within the block, as it was found that the whole of the cattle in the village, grazing day after day over the same spot, were doing a deal of damage towards the reproduction of the area grazed in, each village cattle station being made responsible for the area within which it was grazing. The plan answered well, and on an inspection of the sites no damage can be said to have been done to forest growth, the grass being plentiful and the area large.

25. The grass, as usual, was cut freely by right-holding villagers of Ajmere and Merwara; 5,800 grass permits were given for six weeks, from 24th November to 9th January, to the villagers of Ajmere, while in Merwara the villagers were allowed to cut for the usual five months, November to March. The approximate number of bundles removed from forest limits both in Ajmere and Merwara, during the time of cutting, was 760,000 bundles, as compared with 740,000 bundles last year.

(5).—Natural Reproduction.

26. Pattern areas were selected during the year in some of the forest blocks. The areas have not yet been fenced in; a reference to these will be made in the next Report.

27. Thirteen more porcupines were brought in during the year. This has considerably reduced the number, and thereby the damage done in two of the blocks.

(6).—Artificial Reproduction.

28. *Sowings.*—The sowings suffered a good deal by the heavy frost during December and January. Seed of Nim was dibbled in under *Euphorbia* in the 10 acres of cutting for coppice in the Mohwa Bir block. The seed germinated very freely, but during the frosts numbers of seedlings were killed; it is hoped that during the coming monsoons some of these will be found to have germinated, as the roots were found green. The Nim and Arinja of previous year's sowings also appear to have suffered.

29. Eight acres were sown up in the Makerwali Hokran block, on the sand hills adjoining the sowings of last year. The area was first planted up with Munj grass, and Arinja seed dibbled in at the roots. The seed germinated very freely, but numbers were killed off by frost. The Munj has succeeded well, and will enable the area, where necessary, to be resown; it is hoped with better results, owing to the shade the young plants will receive. The previous year's sowings also suffered a good deal from the heat during May and June, and then again from frost in January. In a small experimental area of about ½ an acre, with little or no growth of any sort, Babul was thickly sown. The seed germinated very freely during the rains, but numbers of seedlings were killed by the frost: there are, however, numbers which have survived the present hot weather, and will, no doubt, be sufficient to stock the area taken in hand.

30. In Merwara, Khair seed was sown in the Kotra block, over an area of 1 acre. The seedlings germinated freely and are doing well.

31. *Planting.*—Along the banks of the Kandakua Nala in the Danta block, 700 Sissoo, 100 Bamboos, and 60 Golia Dhau (*Anogeissus latifolia*) seedlings were put out; 40 per cent. of the plants are doing well, and have made progress. The results of the Sissoo planting were not as successful as last year, owing to the plants being conveyed over a distance of 15 miles. The new nursery started at Bir will not now necessitate this. The plantings of last year are in excellent condition.

32. In the sand drifts of the Makerwali Hokran block, 100 Mangoes, 100 Bamboos, 250 Sissoo, and 100 Arua plants were put out: only 20 per cent. of the plants survived through the cold weather.

33. Eight-hundred and fifty Bamboos were planted out in the Borwar and are alive.

Chang blocks. Though the plants suffered a great deal from frost, 50 per cent.

34. Seven-hundred Cheril and 50 Siris were planted out in the Dilwara Bir block: 40 per cent. are alive and doing well.

35. Fifty Sandal plants were put out in the Mohwa Bir block; 20 are alive and doing well. The Sandal nurseries started last year are doing very well; in the Mir Shah Ali garden nurseries, the seedlings, though of last year's sowing, are from 18″ to 2′ high. From previous plantings in the Division it has been found that the plants must be over 2 feet high to survive through the heat and frost.

36. The total cost of sowing and planting was R1,058, including maintenance of nurseries.

37. *Coppicing.*—This experiment for bettering the present forest growth was carried out during the year in the Mohwa Bir and Nag Pahar blocks, over an area of 10 acres in each block. The cutting of previous years has proved most

successful. Of the cuttings of 1883, some of the scrub growth, such as the *Rhus* and *Zizyphus*, have obtained their maximum growth already; while the shoots of others, such as Babul, Khejra, Arinja, and Kaonlai, are on an average 10 feet high.

38. During the year the Pushker Garden was made over to Forests by the District Fund. A nursery was started in the Mohwa Bir for forest purposes. The Beawar and Bir nurseries were maintained as hitherto; while the greater part of the Ajmere nursery was leased out for cultivation, as it is not suited for experimental purposes, only a small area being reserved for the planting of the commoner sorts of plants.

39. During the year the following numbers of trees were given gratis from the nurseries:—

House-holders	350
Roads and gardens	140
Forest tracts	3,264
Total .	3,754

Besides the trees distributed, there are about 1,500 plants in the Ajmere, 9,000 in the Beawar, 10,000 in the Pushker, 5,000 in the Bir, and 8,000 in the Mohwa Bir nurseries ready for removal.

40. The old Ajmere nursery, instead of being sold to the Sudder Distillery, was leased to them.

(7).—Exotics and Experiments.

41. The *Grevillea robusta* mentioned last year, though still alive, has not made much progress. The Eucalyptus viminalis plants in the Pushker nursery were put out in the Makerwali Hokran and Danta blocks. Only 15 plants survived out of the 80 put out. Some seed of the salt bush was obtained during the year, but did not germinate. 80 plants of paper mulberry were received from the Saharanpur gardens; the plants are doing well. It is hoped to plant out a number in the forest during the coming rains.

42. The Cocoanuts planted out in the Pushker nursery all died, while those at Bir are doing very well.

43. Twenty fruit plants were received from the Saharanpur gardens and planted out in the Bir garden. The fruit trees planted out last year are doing well.

(8).—Communications and Buildings.

A.—Roads and Bridges.

44. No new roads were made during the year; 153 chains of road in Ans Pahar, and 22 chains in the Chang block, were repaired at a cost of R16 and R5-12 respectively. All other inspection paths were maintained in good order.

B.—Buildings.

45. Forest chaukis and nursery huts were looked to and repaired at a total cost of R54-15-3.

CHAPTER IV.

Experiments.

46. The experiments started last year were continued. Owing to there being no special establishment for this work, no further experiments can be taken in hand, nor can any more stations be selected. The experimental work has increased largely, and, for the results to be relied on, a small special establishment is badly wanted.

47. The experiments were carried out under the supervision of the Meteorological Reporter to the Government of India, who has kindly undertaken to go over the results and give necessary suggestions.

A.—Observations of Rainfall.

48. Four new stations were started during the year, one inside and one outside forests. The table given in Appendix A shows the rainfall for the year 1885.

49. On the whole, less rain fell during the year than last year. The highest results taken for the whole year are shown in the Mohwa Bir block, and the least in the Dilwara Bir block, Merwara Sub-Division. The highest difference noted in and out of forests was in the Nag Pahar block, 3·43" in favour of forests, while last year for 7 months only it was 2·85. On the other hand, the Madar Hill, which showed a difference of ·02 in favour of the gauge out of forests for 7 months last year, was 1·13 in excess for the same gauge this year. These differences are by no means astonishing, owing to the very capricious nature of the rainfall. The following figures show what a difference the smallest distance makes in the returns:—

In the Ajmere nursery, the rainfall for the year was 24·48 inches; while at the Meteorological Observatory by the katchahri, barely a distance of 300 yards, the rainfall was 24·77 inches.

50. It would be rash to establish any theories on the present returns, and a number of years will have to be gone over before even a start is made to do so.

B.—Observations of Temperature and Humidity.

51. Two new sheds, after the Dehra Dûn Forest School pattern, were erected in the Mohwa Bir forest block. The stations are 630 feet apart. The readings were started in August last. The readings of stations in the Ajmere nursery were regularly taken during the year.

The results for both sets of stations are given in Appendix B.

52. The results for the Ajmere nursery Station A are much the same as that noted for 6 months last year, very little variations being found. Before discussing these variations, it will be advisable to get the results of another 12 months. The results arrived at from Stations B are very erratic. While the average air in forests was 2·3° hotter during the day, the difference was 0·1 cooler during the night. Both as regards relative humidity and vapour tension, the experiments show that there was more moisture in the air outside forests.

C.—Experiments to determine the Water Level in Wells.

53. During the year, besides the three wells taken in hand last year, nine others were experimented on—four in the Danta block within forests, two in the Popsing Nala outside forests, and three in the Rajgarh block.

54. As regards the Mohwa Bir Forest, there was all along an average of 7 feet more of water in each well than during the previous year. This may partly be accounted for by the increased rainfall during 1884, and the showers that fell during January, May, and June of 1885.

55. All results are given in Appendix C.

D.—Protection of the Catchment Area of Tanks.

56. The following figures give the results for the Danta tank, which has its entire area conserved:—

	1883.	1884.	1885.
Rainfall at Danta, in inches	13·14	18·70	20·09
Quantity of water fallen into catchment area, in million cubic feet	84	115	116
Quantity collected in the tank, in million cubic feet .	1¾	3¼	4
Percentage of rainfall collected, in million cubic feet .	·02	·03	·034

It would be rash to comment on these figures now, as the block has been conserved a very few years; but, judging from the experience gained elsewhere, better results may be hoped for, especially as the forest growth is rapidly improving. There is one fact, however, worthy of note, and that is that the wells belonging to villagers below the tank have been greatly benefited conjointly by the construction of the tank and the conserving of the forests, which regulates a continual sub-surface flow.

E.—Construction of Dams across Valleys.

57. Funds were not available for further dams across valleys. The dams constructed last year are fast filling with silt.

CHAPTER V.

Yield and Working.

(1).—*Departmental Operations.*

58. Endeavours were made to sell by auction a selected area of about 60 acres for clean felling, with a view to coppice in Compartment II of the Todgarh block, and adjoining the previous year's cuttings; all trees being cut, except Saler. The bids were low, so that it was determined to work the area departmentally in the following manner:—

The cuttings to be done by Government, while the contractor removed all wood cut and lying in the jungle, at the rate of R0-7-0 a camel-load. By this means 2,880 camel-loads were removed by the contractor, for which he paid R1,260. The cost of felling and shaping of stools was R580-12-3, R486-15-5 being paid to labourers in 1885-86 and the balance in April 1886. At the end of the year 42 camel-loads of wood were still remaining, for which R18-6 were paid in April. The net profit on this area was R697-9-9, or R11-10 per acre. The rates paid for felling were rather high, owing to a first attempt at this work; it is hoped, however, to reduce this as work progresses.

59. The amount of produce removed from this area was 17,280 maunds in 1885-86 and 252 maunds in April 1886, or 58,440 cubic feet in all.

60. To complete the railway indent of 88 tons, 1,788 maunds of charcoal were supplied, and 85 maunds 10 seers sold locally, from the area selected for cutting last year in Compartment II, Todgarh range, from which the whole crop intended to be cut was not taken.

61. In the Chang block an area of about 30 acres was selected for clean felling. Only a part of this was able to be cut during 1885-86. No contractor coming forward to buy the material standing, the area was worked departmentally, and the produce sold at R20 per 100 maunds. An indent for 5,000 maunds was given in by a contractor, rather late in the season: 500 maunds were given to the man, the cost of cutting and carriage of which was R45, paid during April 1886.

62. The quantity of firewood and charcoal removed during the year, as compared with last year, was—

	1884-85.		1885-86.	
	Maunds.	Cubic feet, approximate.	Maunds.	Cubic feet, approximate.
Firewood	2,561	6,591	17,780*	59,267
Charcoal	1,329	...	1,873	...

* Approximate.

63. During the year an indent for 1,100 maunds of grass, to be supplied to the police lines, was received. Of this, 671 maunds were supplied during the year. The grass was cut and collected by Government agency.

64. The following shows the work done by Government bullocks, together with their feed and keep during the year :—

Place.	Description of work.	Number at beginning of year.	Number at close of year.	Cost of feed and keep.	Remarks.
				R a. p.	
Ajmere Nursery . .	Watering trees and carrying plants, &c.	4 bullocks .	4 bullocks .	19 3 4	
Pushker Garden and Makerwali . . .		...	2 „ .	14 3 1	Transferred from District Funds.
		...	1 buffalo .	1 3 10	Transferred from Taragarh.
Taragarh Valleys . .	...	1 buffalo .	...	...	
Beawar Nursery . .	...	3 bullocks .	4 bullocks .	11 3 9	Transferred from District Funds.
	Total .	8	11	45 14 0	

(2).—*Removal of Produce by Purchasers.*

65. Areas of 10 acres each, adjoining the cuttings of last year, in the Nag Pahar and Mohwa Bir blocks, were sold by auction for R207 and R60 respectively.

66. Dry firewood was sold from the forest blocks both in Ajmere and Merwara. In Ajmere the sales were by auction, while in Merwara tickets were given for head and donkey-loads. The following table shows the results of these sales :—

Name of Tract.	No. of Loads.		Amount.
	Head.	Donkey.	
			R a. p.
Mohwa Bir and Madar Hill	By	auction	127 8 0
Taragarh Valleys	„	„	21 0 0
Nag Pahar	„	„	50 6 0
Srinagar	„	„	84 6 0
Danta	„	„	62 4 0
Rajosi	„	„	37 12 0
Rajgarh	„	„	0 2 6
Shikast Masjid	„	„	1 12 0
Ajmere Nursery	„	„	3 0 0
Todgarh	...	11,236	1,053 6 0
Biliawas	...	54 carts	54 0 0
Sheopura	323	107	41 10 0
Chang	1,161	4 carts	76 9 0
Borwar Kotra	1,263	63 mds. 37 seers	94 13 6
Total .	...	...	1,708 9 0

67. Wood for household purposes was sold to villagers of the District who have no rights in the forests; 3,705 dandas, 95 bullis, and 517 loads of kamris were disposed of in this way. The sum realized was R127-7, out of this R94-5-0 was credited to II *b*.

68. *Bamboos.*—Four-thousand and six bamboos were sold from the Todgarh block. The sum realized was R52-9-6.

69. *Grass and Grazing.*—Both standing and stacked grass, where such could be sold without interfering with the rights of villagers, was sold by auction in the Ajmere, as well as Merwara Sub-Divisions. R1,982-13-2 were realized from

these sales. Besides the amounts received by auctions, R256-9-3 were realized from the Dewair Pass as grazing dues, and R813-6 from villagers grazing their cattle within the forest blocks open to grazing.

70. *Minor Produce.*—The sales of minor forest produce amounted to R581-9 in Ajmere and R132-8-3 in Merwara. In Ajmere, the sum realized was chiefly for fruit sold from nurseries; in Merwara, for honey and wax.

71. *Fines and Forfeitures.*—Under this head R723-13-6 were realized during the year.

72. The revenue from other sources amounted to R42-2-0.

(3).—*Free Grants to Right-holders.*

73. *Wood.*—The following statement gives the quantity granted from forest limits to right-holding villagers during the year, as compared with the two previous years :—

	1883-84.	1884-85.	1885-86.
Jungle poles for household purposes	2,135	5,090	5,539
Plough and small wood for agriculture	18	954	424
Fuel for special purposes	...	...	360 mds.

74. *Grass.*—The villagers, as usual, were allowed to cut grass freely. The following statement gives an approximate idea of the value of these blocks to villagers, in grass alone, during the year :—

District.	Bundles brought out from the Forests.	Value.
		R
Ajmere	230,000	14,375
Merwara	530,000	33,125
TOTAL .	760,000	47,500

Each bundle was valued at one anna, as was done last year.

CHAPTER VI.

FINANCIAL RESULTS.

Receipts and Expenditure.

75. The following table gives the financial results of the year, as compared with those of the two preceding years :—

Budget Heads.	1883-84.	1884-85.	1885-86.
	R	R	R
Receipts	8,198	10,456	9,697
Expenditure { A. Conservancy and Works . .	4,100	5,174	4,210
Expenditure { B. Establishments . . .	10,474	11,142	12,259
Total Expenditure . .	14,574	16,316	16,469
Deficit	6,376	5,860	6,772

76. The Receipts and Expenditure under the three great heads are as follows :—

Year.	I.—Timber and other Produce removed by Government Agency.		II.—Other Revenue.		III.—Formation, Protection, and Improvement of Forests.	Total.	
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.
	R	R	R	R	R	R	R
1884-85	1,810	802	8,646	4,616	10,898	10,456	16,316
1885-86	3,009	1,201	6,688	4,981	10,288	9,697	16,469

77. *Revenue.*—The Revenue was less than that of the previous year by R759, and is accounted for as follows :—

(*a*) An increase of R930 for firewood and charcoal removed by Government agency, due to more extensive workings of the forest; an increase of R269 for grass cut by Government agency and supplied to the police lines; an increase of R33 for timber removed by purchasers; an increase of R244 by the sale of minor forest produce, due chiefly to the proceeds from the sale of fruit from the Pushker garden; an increase of R200 under fines and forfeitures.

(*b*) A decrease of R163, due to some of the men removing dry firewood from Government forests, having gone to the forests of Raipur in Jodhpur, where the rates are lower; a decrease of R2,214 from grazing and fodder grass, owing to only a few of the blocks being opened to grazing; a decrease under bamboos and all other sources of R58.

The total decrease over last year was R2,435, while the increase was R1,676.

78. *Expenditure.*—The Expenditure exceeded that of the previous year by R153, accounted for as follows :—an increase of R398 under produce removed by Government agency, and R1,117 under establishments, due chiefly to the increased pay of the Assistant Conservator of Forests. As a set-off against this, the following heads were decreased :—R19 for produce removed by purchasers, R45 for stock, R638 for communications and buildings, R656 for demarcation and improvement of forests, and R7 for miscellaneous charges.

79. The outstandings at the close of the year were *nil.*

CHAPTER VII.

General Remarks.

80. The Forest Establishment; on the whole, worked well.

81. My Office Establishment, as usual, did very good work, especially Nihâl Chand, Forest Clerk, who, besides his own work, which is increasing, looked after the meteorological readings. I would again urge that some arrangement be made to raise the pay of the post, especially as the post of the Forest Clerk with the Commissioner has been abolished.

FOREST DEPARTMENT, AJMERE-MERWARA.

Annual Form No. 49.

Area of Reserved Forests in 1885-86.

Division or range.	Civil District or Territory.	Name of Forest.	Area on 1st April 1885.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1886.		No. and date of Notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Ajmere-Merwara.	Ajmere	Mohwa Bir and Madar Hill.	2,812	4	...	...	2,812	4		
		Nag Pahar	2,660	4	..	...	2,660	4		
		Taragurh Valleys	1,016	2	.	...	1,016	2		
		Srinagar and Birj	3,575	6	...	...	3,575	6		
		Rajosi	1,360	2	...	...	1,360	2		
		Dauta	1,244	2		...	1,244	2		
		Rajgurh	2,885	4	...	...	2,885	4		
		Makerwali Hokran	3,000	5	...	...	3,000	5		
		Total	18,452	29	...		18,452	29		
	Merwara	Chang	2,341	4	...	...	2,341	4		
		Hattun and Sheopura	2,020	5	...	...	2,020	5		
		Billawas and Taragurh	3,172	5	..	...	3,172	5		
		Todgurh and Barakhan	40,048	63	...	...	40,048	63		
		Dilwara and Chang Birs	235	...	...	..	235	...		
		Borwar Kotra	4,543	7	...	...	4,543	7		
		Ans Pahar	1,466	2	...	..	1,466	2		
		Dewair	12,203	19	...	...	12,203	19		
		Banjari Mandlan	4,500	7	...	.	4,500	7		
		Amner	2,300	4	...	...	2,300	4		
		Total	73,728	116	...	...	73,728	116		
		GRAND TOTAL	92,180	145	...	...	92,180	145		

Annual Form No. 50.

Prosecutions for Breaches of Forest Rules during 1885-86.

Forest Division and Civil District.	Cases pending from 1884-85.	New cases of the year.					Total cases	Disposed of during the year.						Cases pending at close of year.
		Injury to forest by fire	Unauthorized felling or appropriation of wood and minor forest produce.	Grazing without permission, or in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year.		Convictions		Acquittals.		Total.		
								Cases	Persons	Cases	Persons	Cases	Persons.	
Ajmere. Mohwa Bir and Madar Hill	...	1	2	...	...	3	3	3	4	...		3	4	...
Nag Pahar	...	...	5	...	...	5	5	5	9	...	...	5	9	...
Makerwali Hokran	...	...	3	1	...	4	4	4	14	.	...	4	14	...
Shikast Masjid	...	...	1	...	...	1	1	1	3	...	1	1	4	
Srinagar	...	...	3	1	...	4	4	4	6	...	...	4	6	.
Dauta	...	1	1	...	2	4	4	3	8	1	11	4	19	...
Total	...	2	15	2	2	21	21	20	44	1	12	21	56	...
Merwara. Todgarh	...	1	5	7	...	13	13	12	38	1	2	13	40	..
Dowair	...		1	9	...	10	10	8	24	2	16	10	40	...
Chang	...	...	4	...	...	4	4	4	5	...	...	4	5	...
Borwar Kotra	...	..	1	...	...	1	1	1	1	...	...	1	1	...
Sheopura		1	...	2	...	3	3	3	5	...	...	3	5	.
Dilwara and Chang Birs	...	..	.	1	...	1	1	1	1	...	...	1	1	..
Total	...	2	11	19	...	32	32	29	74	3	18	32	92	..
GRAND TOTAL	...	4	26	21	2	53	53	49	118	4	30	53	148	...

FOREST DEPARTMENT, AJMERE-MERWARA.

Form No. 51.

Area of Forest Tracts protected from Fire during the dry season of 1886, to accompany Report for 1885-86.

Division.	Forest Tracts.	Year in which protection commenced.	Area actually protected up to 30th June 1885.	During dry season of 1886.			Cost during the season from 1st July 1885 to 30th June 1886.	Remarks.
				Area attempted to be protected.	Failures.	Actually protected.		
			Acres.	Acres.	Acres.	Acres.	R	
Ajmere	Mohwa Bir and Madar Hill	...	2,812	2,812	1	2,811	20	
	Nag Pahar	1880	2,660	2,660	1	2,659	13	
	Taragurh Valleys	1874	1,016	1,016	...	1,016	12	
	Srinagar Bir	1880	3,545	3,575	...	3,575	...	
	Rajosi	1880	1,260	1,260	...	1,260	35	
	Danta	1882	1,244	1,244	10	1,234	13	
	Rajgurh	1884	2,885	2,885	...	2,885	...	
	Makerwali Hokran	1885	3,000	3,000	...	3,000	...	
	Total	...	18,422	18,452	12	18,440	93	
Merwara	Chang	1881	2,341	2,341	...	2,341	32	
	Hattun and Sheopura	1882	2,905	2,920	...	2,920	4	
	Biliawas and Taragurh	1874	3,172	3,172	3	3,169	33	
	Todgarh and Barakhan	1874	40,048	40,048	40	40,008	230	
	Dilwara and Chang Birs	...	235	235	...	235	...	
	Borwar Kotra	1882	4,543	4,543	...	4,543	16	
	Ans Pahar	1877	1,466	1,466	...	1,466	28	
	Dewair	1881	12,203	12,203	...	12,203	71	
	Banjari Mandlan	1884	4,500	4,500	...	4,500	11	
	Amner	1884	2,298	2,300	...	2,300	17	
	Total	...	73,711	73,728	43	73,685	442	
	GRAND TOTAL	...	92,133	92,180	55	92,125	535	

FOREST DEPARTMENT, AJMERE-MERWARA.

Annual Form No. 52.

Area of Plantations in 1885-86.

Division.	Name of Plantation.	Area, in Acres. On 1st April 1885.	Added during the year.	Excluded during the year.	Area on 31st March 1886.	Receipts of the Year.	Charges Year.	Remarks.
	Out of the Area taken up under the Regulation.					₹	₹	
	Mohwa Bir and Madar Hill	57	10	...	67	...	13	
	Nag Pahar	18	...	...	18	...	...	
	Taragurh Valleys	78	...	...	78	...	22	
	Srinagar Bir	6	...	...	6	...	10	
	Danta	16	8	...	24	...	28	
	Rajgurh	...	...	...	...	..	4	
	Makerwali Hokran	10	8	...	18	...	41	
	TOTAL	185	26	...	211	...	128	
	Chang	15	5	...	20	...	9	
	Hattun and Sheopura	30	...	...	30	...	...	
	Biliawas and Taragurh	12	...	...	12	...	...	
	Todgurh and Barakhan	46	...	...	46	...	2	
	Borwar and Kotra	7	2	...	9	...	...	
	Dilwara and Chang Bira	71	...	...	71	...	...	
	Banjari Mandlan	3	...	...	3	...	...	
	Dewair	...	...	...	...	...	2	
AJMERE-MERWARA	TOTAL	184	7	...	191	...	13	
	GRAND TOTAL	369	33	...	402	...	141	
	Tracts not taken up under the Regulation.							
	Shikast Masjid	6	...	...	6	...	61	
	Parade Plantation	8	...	...	8	...	...	
	TOTAL	14	...	...	14	...	61	
	TOTAL PLANTATIONS	383	33	...	416	...	202	
	Nurseries.							
	Ajmere Nursery	10	...	...	10	...	223	
	Pushker Garden	...	4	...	4	...	203	
	Bir Garden	4	...	...	4	...	90	
	Beawar Nursery	4	...	...	4	...	266	
	General Charges	...	...	...	...	...	14	
	TOTAL	18	4	...	22	...	856	
	GRAND TOTAL	401	37	...	438	...	1,058	

FOREST DEPARTMENT, AJMERE-MERWARA.

Form No. 54.

Outturn of Timber and Firewood during the year 1885-86.

Division.	Description of Material.	Outturn, in cubic feet (Approximate)							Remarks.
		Selection fellings	Clearances	Thinnings.	Total.	Removed by			
						Government agency	Purchasers	Free grants	Right-holders.	
Ajmere-Merwara . . .	Firewood and Charcoal .	...	89,000	...	89,000	89,000	...	...	...	The measurements given only refer to the Merwara Sub-Division, and are taken approximately.
	Firewood .		Dry	wood.	99,468	..	99,468	...	...	All wood sold in Ajmere was either sold standing or consisted of dry wood. Free grants were made of standing wood, for which no measurements can be given.

Form No. 55.

Outturn of Minor Forest Produce during the year 1885-86.

Division.	Description of Produce.	Produce removed or utillized.										Remarks.
		By Government agency		By Purchasers.		By free grants		By right-holders		Total.		
		Quantity	Value.	Quantity.	Value.	Quantity.	Value	Quantity	Value	Quantity.	Value.	
		Mds.	*R*		*R*			*Bundles.*	*R*		*R*	
Ajmere-Merwara .	Grass .	747	269	By auction.	1,983	...	...	760,000	47,500	...	49,752	Stacked and standing grass from all blocks was sold by auction.
	Fruits .	...	...	Do.	504							
	Honey and Wax .	...	...	Do.	89	...	...	...	...	...	714	
	Miscellaneous .	...	...	Do.	121							
	Total .	747	269	...	2,697	...	...	760,000	47,500	...	50,466	

Annual Form No. 56.

Account of Timber and other Produce cut or collected by Government agency and brought to Sale Depôts or sold locally during the year 1885-86.

Particulars.	Number or quantity.	Cubic feet.	Total of each head		Particulars.	Number or quantity.	Cubic feet.	Total of each head.	
			Number or quantity	Cubic feet				Number or quantity.	Cubic feet.
					Firewood and Charcoal.				
	Mds. Srs		Mds. Srs			Mds. Srs.		Mds. Srs.	
Balance in hand—					*Sold locally—*				
Charcoal . . .	201 0		...		Charcoal . . .	1,673 10			
Received during the year—					Firewood . . .	500 0			
Charcoal . . .	1,672 10		...		,, . . .	2,880 camel-loads.		2,373 10	
Firewood . . .	500 0							2,880 camel-loads.	
,, . . .	2,880 camel-loads		2,373 10						
			2,880 camel-loads						
					Grass and minor Produce.				
	Mds. Srs.		Mds. Srs.			Mds. Srs.		Mds. Srs.	
Grass	746 38		746 38		Grass	746 38		746 38	
Total .	...	...	3,120 8		Total .	...	...	3,120 8	
			2,880 camel loads					2,880 camel-loads	

FOREST DEPARTMENT, AJMERE-MERWARA.

Annual Form No. 58.

Summary of Revenue and Expenditure in 1885-86.

RECEIPTS.

	R	a.	p.
I.—Timber and other Produce removed from the Forests by Government Agency—			
(a) Timber	...		
(b) Firewood and Charcoal	2,739	8	3
(c) Bamboos	...		
(d) Sandalwood	...		
(e) Grass and other minor produce	269	5	1
II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—			
(a) Timber	33	2	0
(b) Firewood and Charcoal	2,069	14	0
(c) Bamboos	52	9	6
(d) Grazing and fodder Grass	3,052	12	5
(e) Other minor produce	714	1	3
III.—Confiscated, Drift, and Waif Wood	...		
IV.—Revenue from Forests not managed by Government—			
(a) Duty on foreign timber and other forest produce	...		
(b) Revenue from shared and private forests	...		
V.—Miscellaneous—			
(a) Fines and Forfeitures	723	13	6
(b) Refunds	...		
(c) Other sources	42	2	0
Total Receipts	9,697	4	0

EXPENDITURE.

A.—Conservancy and Works.

I.—Timber and other Produce removed from the Forests by Government Agency—			
(a) Timber	...		
(b) Firewood and Charcoal	1,169	4	1
(c) Bamboos	...		
(d) Sandalwood	...		
(e) Grass and other minor produce	30	8	1
II.—Timber and other Produce removed from the Forests by Consumers or Purchasers	77	0	0
III.—Confiscated, Drift, and Waif Wood	...		
IV.—Revenue from Forests not managed by Government—			
(a) Duty on foreign timber and other forest produce	...		
(b) Revenue from shared and private forests	...		
V.—Rent of Leased Forests and payments to Shareholders in Forests managed by Government	...		
VI.—Live-Stock, Stores, Tools, and Plant—			
(a) Purchase of cattle	...		
(b) Feed and keep of Cattle	45	14	0
(c) Stores, tools, and plant	29	10	3
Carried forward	1,352	4	4

		R	a.	p.
	Brought forward .	1,352	4	4
VII.—Communications and Buildings—				
(a) Roads and Bridges		22	7	0
(b) Buildings		54	15	3
(c) Other works		255	14	7
VIII.—Demarcation, Improvement, and Extension of Forests—				
(a) Demarcation		50	1	9
(b) Compensation for Land and Rights		...		
(c) Surveys and Working-Plans		...		
(d) Plantations		1,058	14	11
(e) Protection from Fire		213	7	0
(f) Other works		1,145	12	6
IX.—Miscellaneous—				
(a) Refunds		10	14	0
(b) Law charges		...		
(c) Other charges		44	14	0
Total, A.—Conservancy and Works .		4,209	9	4
B.—Establishments.				
I.—Salaries—				
(a) Conservator		...		
(b) Superior Officers		4,278	9	2
(c) Subordinate Forest and Depôt Establishments . . .		4,949	8	1
(d) Office Establishments		973	12	4
(e) Deputation and Special Allowances		...		
II.—Travelling Allowances—				
(a) Conservator		...		
(b) Superior Officers		1,131	4	8
(c) Subordinate Forest and Depôt Establishments . . .		240	6	0
(d) Office Establishments		100	11	3
III.—Contingencies—				
(a) Stationery		26	15	6
(b) Carriage of Tents and Records		153	12	3
(c) Rents, Rates, and Taxes		180	0	0
(d) Pay of Police Guards		...		
(e) Official Postage		64	9	0
(f) Sundries		159	6	9
Total, B.—Establishments .		12,258	15	0
GRAND TOTAL OF EXPENDITURE .		16,468	8	4

FOREST DEPARTMENT, AJMERE-MERWARA.

Annual Form No. 59.

Account Current for the year 1885-86.

Dr. Cr.

	R	a.	p.	R	a.	p.		R	a.	p.	R	a.	p.
Opening Balance				35	2	8	Expenditure as per Annual Summary				16,468	8	4
Revenue as per Annual Summary				9,697	4	0	Forest Cash Remittance				8,383	11	9
Forest Cash Remittance				15,845	0	7	Advances Recoverable				934	13	6
Inter-Divisional Transfers				425	8	5	Inter-Departmental Transfers—						
Advances Recoverable				648	3	11	Public Works Department—State Railways—						
Deposits				100	0	0	Rajputana-Malwa Railway				1,316	15	3
Inter-Departmental Transfers—							Closing Balance				18	12	9
Public Works Department—State Railways—													
Rajputana-Malwa Railway	0	2	0										
Civil Department—													
Mathematical Instrument Department R11-8-0													
Miscellaneous R360-0-0													
	371	8	0										
				371	10	0							
TOTAL	...			27,122	13	7	TOTAL	...			27,122	13	7

FOREST DEPARTMENT, AJMERE-MERWARA.

Annual Form No. 61.

Outstandings and Liabilities on account of Contractors and Disbursers for 1885-86.

Division.	Department Debtor.			Department Creditor.			Balance Due.		Remarks.
	At commencement of year.	Recoveries in cash and value of supplies and work done during the year.	At close of year.	At commencement of year.	Payments made during year.	At close of year.	To Department (Outstandings)	By Department (Liabilities).	
	R	R	R	R	R	R	R	R	
Ajmere-Merwara . .	...	648 3 11	648 3 11	146 12 9	934 13 6	1,081 10 3	488 0 7	54 10 3	
Total .	...	648 3 11	648 3 11	146 12 9	934 13 6	1,081 10 3	488 0 7	54 10 3	

FOREST DEPARTMENT, AJMERE-MERWARA.

Annual Form No. 62.

Financial Results of the year 1885-86.

Division.	Timber and other produce removed from the forests by Government agency.		Other Revenue.		Formation, protection, and improvement of forests.	Total.		Remarks.
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.	
	R	R	R	R	R	R	R	
Ajmere-Merwara . . .	3,009	1,200	6,688	4,981	10,288	9,697	16,469	
Total .	3,009	1,200	6,688	4,981	10,288	9,697	16,469	

APPENDIX A.

Statement showing the Rainfall registered at different stations in Ajmere-Merwara during the year 1885.

Month.	Mohwa Bir.				Mohwa Bir, Well No. 2.		Madar Hill.				Nag Pahar.				Danta.				Rajgurh.				Dilwara Bir.				Bajrangarh, over the Ana Sagar band.		Remarks.
	In Forest.		Outside Forest.				In Forest.		Outside Forest.		In Forest.		Outside Forest.		In Forest.		Outside Forest.		In Forest.		Outside Forest.		In Forest.		Outside Forest.				
	Feet.	In.	Feet.	In.	Feet.	In.	Feet.	In.	Feet.	In.	Feet.	In.	Feet.	In.	Feet.	In.	Feet.	In.	Feet.	In.	Feet.	In.	Feet.	In.	Feet.	In.	Feet.	In.	
January	0	55	...	49	Station not erected		0	29	0	35	0	21	0	26									0	32	0	22	0	20	In Mohwa Bir, the distance between stations is 1,232 feet. In Madar Hill, distance between stations 2,161 feet. In Nag Pahar, distance between stations 9,195 feet. In Danta, distance between stations 5,145 feet. In Rajgurh, distance between stations 2,876 feet; and in Dilwara Bir, distance between stations 300 feet. The readings for all stations, except the Nag Pahar, which was started in July during 1884, were for seven months only, beginning from June.
February	0	...	...	.			...	...	...	...	...	...	...	...									...	...	...	...	...	...	
March	0	..	...	....			...	...	...	...	...	...	...	...									...	...	...	...	...	...	
April	0	...	...	.			...	...	...	...	0	3	0	3									...	...	...	...	...	...	
May	0	75	0	64			1	38	1	34	0	61	0	82									0	91	1	12	0	82	
June	3	74	3	61			2	87	2	96	3	98	4	4									3	45	2	84	4	92	
July	8	6	6	73	3	67	8	14	8	57	5	61	4	56	2	13	1	54					7	6	6	41	5	63	
August	12	10	12	7	11	27	10	97	11	57	14	4	11	31	8	93	7	13	8	48	8	29	8	58	8	41	7	54	
September	0	5	0	1	0	9	...	...	...	...	0	30	0	34	...	...	...	...	...	...	...	...	...	18	0	22	0	8	
October	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
November	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
December	0	59	0	44	0	67	0	13	0	12	0	36	0	35	1	25	0	99	0	96	0	97	0	11	0	15	0	40	
Total	25	84	23	99	15	70	23	78	24	91	25	14	21	71	12	31	9	66	9	44	9	26	20	61	19	37	19	59	
Rainfall in 1884	27	72	25	26	...	...	26	28	26	30	19	33	16	48	...	...	...	...	...	...	...	...	...	...	...	...	22	60	

APPENDIX B.

METEOROLOGICAL OBSERVATIONS.

STATION A.

Results of Meteorological Observations conducted at the Ajmere Forest Nursery, 1,640 feet above sea-level. Observatories of the standard pattern. Cages with instruments 4 feet above ground.

Calendar year 1885.	Dry Minimum.		Dry Maximum.		Daily Mean Dry.		Mean Vapour Tension.						Mean Relative Humidity.						Rain-fall, in inches.	Remarks.
							Under Trees.			Outside.			Under Trees.			Outside.				
	Under Trees.	Outside.	Under Trees.	Outside.	Under Trees.	Outside.	From minims.	At 10h.	At 16h.	From minims.	At 10h.	At 16h.	From minims.	At 10h.	At 16h.	From minims.	At 10h.	At 16h.		
January	43·7	42 9	70·4	71·8	56·1	56·4	·236	·283	·287	·230	·277	·275	82	53	41	82	50	38	0·45	
February	40·1	38·8	72·4	74·2	56·9	57·4	·169	·213	·217	·176	·219	·208	67	36	29	74	35	27	...	
March	56 2	55·1	88·1	90·1	72·5	73·2	·284	·315	·301	·288	·324	·305	62	32	24	65	31	23	...	
April	66·3	65·6	92·6	94·4	79·6	80·5	·385	·482	·529	·392	·481	·509	59	42	37	61	40	34	0·02	
May	69 4	68·9	96·5	98·5	82·5	83·3	·460	·491	·462	·458	·473	·426	64	39	31	65	36	28	1·26	
June	78·6	78·4	99·4	101·1	87·5	88·2	·648	·716	·666	·636	·712	·660	66	52	40	62	50	38	4·35	
July	77 0	77·1	90·2	91·4	81·9	82·4	·755	·809	·805	·759	·812	·788	82	73	62	81	71	60	7 36	
August	74·5	74·7	84·8	86·1	78·3	78·9	·768	·810	830	·780	·800	·823	90	81	75	90	78	73	10·63	
September	67 9	67·8	89·3	91·8	77·6	78·6	·595	·633	·605	·595	·627	·590	86	58	48	86	54	44	0 11	
October	60·0	59·2	91·7	93·8	74·9	75·0	·410	·425	·409	·402	·394	·356	78	36	30	78	32	25	...	
November	47·2	46·2	85·2	87·0	65·9	65·7	·259	·277	·278	·256	·256	·256	79	28	25	81	25	22	...	
December	43·7	42·9	74·2	75 3	57·7	57·7	·252	·288	·257	·250	·297	·266	85	47	35	87	47	36	0·30	
Total	724·6	717·6	1,034·8	1,055·6	871·4	877·3	5·221	5·742	5·646	5·222	5·672	5·462	900	577	477	912	549	448	24·48	
Average	60·4	59·8	86·2	88·0	72·6	73 1	·435	·478	·471	·435	·473	·455	75	48	40	76	46	37	...	
Total Rainfall of 1884	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	22·43	Six months only, beginning from July 1884.
Average of 1884	61·2	60·8	83·2	85 2	71·1	71·5	·525	·586	·589	·531	·604	·603	86	60	53	88	60	53	...	

Station B.

Results of Meteorological Observations conducted at the Mohwa Bir Forest Reserve (Ajmere), about 1,680 feet above sea-level. Observatories of the Dehra Dún Forest School pattern. Cages with instruments 4 feet above ground.

Calendar year 1885.	Dry Minimum.		Dry Maximum.		Daily Mean Dry.		Mean Vapour Tension.						Mean relative Humidity.					
							In Forest.			Outside.			In Forest.			Outside.		
	In Forest.	Outside.	In Forest.	Outside.	In Forest.	Outside.	From minima.	At 10h.	At 16h.	From minima.	At 10h.	At 16h.	From minima.	At 10h.	At 16h.	From minima.	At 10h.	At 16h.
August	74·4	74·5	85·8	84·9	78·5	78·5	·760	·827	·845	·748	·826	·839	89	81	75	87	81	75
September	70·6	68·9	91·1	89·5	79·3	78·6	·544	·645	·610	·573	·687	·666	75	56	47	80	61	51
October	60·8	62·4	95·1	91·9	76·0	76·4	·373	·443	·435	·379	·478	·464	68	35	30	65	40	33
November	50·6	50·6	89·1	86·3	68·3	67·1	·232	·297	·355	·227	·274	·268	63	27	29	62	28	23
December	45·3	45·7	76·7	73·7	59·2	58·3	·239	·299	·363	·236	·295	·302	76	46	45	74	49	41
Total	301·7	302·1	437·8	426·3	361·3	358·9	2·148	2·511	2·608	2·163	2·560	2·539	371	245	226	368	259	223
Average	60·3	60·4	87·6	85·3	72·3	71·8	·430	·502	·522	·433	·512	·508	74	49	45	74	52	45

APPENDIX C.

WELL EXPERIMENTS.

Mohwa Bir Reserve.

(The area is about 200 acres, with a catchment consisting of a fairly broad valley, with numerous small streams coming into the main Nala. The rock is close to the surface and abounds in quartz, so that the soil is very poor. This tract was taken up in 1872.)

Dates.	Well No. 1.	Well No 2	Well No 3.	Remarks.
1st March 1885	35 27	30·77	23 56	The south-west monsoon terminated on the 28th August 1885. The rainfall up to 1st March 1885 was 27·04 inches, taking it from 1st March 1884. No fires occurred during the year. All the better kinds of grass were cut by the end of January. Grass-cutting was, however, continued till the middle of May. Khejra, babul, arinja and nim came out in full leaf about the beginning of March. From well No. 1 to No. 2, the distance along the bed of the nala is 1,417 feet; the distance from No. 2 to 3 along the nala (No. 3 is highest up the stream) is 1,573 feet. The wells are about the same distance from the bed of the nala, and, with the exception of No. 1, are not used for irrigation. The south-west monsoon set in on the 11th July 1885.
8th „ 1885	35·56	30·77	23 56	
15th „ 1885	35 56	31·02	24·08	
22nd „ 1885	36·02	31·35	24 33	
30th „ 1885	36 77	31 64	24 68	
5th April 1885	36 92	31 77	24 85	
12th „ 1885	37 25	31 85	25 02	
19th „ 1885	37 35	32·02	25 10	
26th „ 1885	37 58	32 25	25 50	
3rd May 1885	38 27	32·58	25 88	
10th „ 1885	38·68	32 91	26 18	
17th „ 1885	38 91	33·18	26 50	
27th „ 1885	...	33 77	27·08	The results of 24th were carelessly omitted by Forester. On the 27th May and 1st June, the water from well No. 1 was by mistake taken out the day before for the Mohwa Bir Nursery. Rain fell in May, June, and July, while the experiments were being carried on, but made no difference in the measurement of wells.
1st June 1885	...	33·91	27 33	
7th „ 1885	40 52	34·05	27·35	
14th „ 1885	41·08	34·39	27 68	
21st „ 1885	41 89	34·66	27 97	
28th „ 1885	40 43	34·77	28 35	
5th July 1885	41·47	34·97	28·47	
12th „ 1885	41 81	35·02	28 64	
19th „ 1885	41·27	35 25	28 81	
26th „ 1885	40·85	35 10	28 89	
Average	38·67	33·09	26 35	

Danta Reserve.

(The areas of catchments are about 1,000 and 700 acres respectively, consisting of numerous small streams coming down into the main Nala, on the banks of which the wells are situated. The rock is fairly close to the surface, abounding in quartzite. The soil along the sides of streams is fairly deep, but along the spurs, poor in the Danta catchment. In the Popsing catchment it is poor.)

Dates.	Danta Block.				Popsing Nala.		Remarks.
	Well No. 1.	Well No. 2.	Well No. 3.	Well No. 4.	Well No. 1.	Well No. 2.	
	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	
3rd May 1885	21·25	15 16	13·96	10·73	14·79	11 68	The rainfall from 1st March 1884 to 1st March 1885 was 18·69 inches. No fires occurred during the year. All the better kinds of grass were cut by the end of January The forest growth when the block was first taken up, some 6 years ago, was very poor; ever since its conservancy has been taken in hand, the block has made steady progress, the ground being first covered with dasan, ber, mua, khejra, babul and arinja. The khejra, babul and arinja came out in full leaf about the end of March, the rest in July. The distances between wells are 2,077, 1,526, and 9,023 feet, respectively.
10th ,, 1885	16 54	15 14	14·58	11 41	15·58	11·89	
17th ,, 1885	18·29	15·41	14·00	10 68	15·91	11 50	
24th ,, 1885	19·29	15·97	14 29	11 08	15·58	11·60	
31st ,, 1885	20 75	17·00	15·31	12·08	16·83	12·64	
7th June 1885	21 83	17 83	16 26	13·06	18·75	12 83	
14th ,, 1885	21·66	17 27	14 26	13·14	19 29	12·91	
21st ,, 1885	22·08	17·37	15·75	12·41	19·58	12·91	
28th ,, 1885	19·97	17·00	15·66	12·29	18 75	12·00	
5th July 1885	22·25	17·08	15·31	11 97	18·15	11·47	The Popsing nala wells are situated at the foot of the western slope of ridge, along the eastern slope of which the Danta wells are. The entire catchment area in which these wells are situated is open ground, with no forest growth, but little grass The distance between wells are 2,156 feet. The south-west monsoons set in on the 11th July 1885, the water increasing steadily.
12th ,, 1885	20 16	17·00	15 37	11·97	17 75	11·35	
19th ,, 1885	20·83	14·75	13·91	10·87	15 83	10·33	
26th ,, 1885	22·16	15·41	13 91	10·58	...	...	
Average	20·54	16·33	14 51	11·71	17·23	11·92	

Rajgarh Tract.

(The areas of catchments are about 500 and 200 acres respectively, consisting of a broad valley, with numerous small streams, intersecting and coming down into the main Nala, on the banks of which the wells are situated. The rock is fairly close to the surface and abounds in quartzite. The soil is poor.)

Dates.	Charia Nala.			Rhanwaria.	Remarks.
	Well No. 1.	Well No. 2.	Well No. 3.	Well No. 1.	
		Feet.	Feet.	Feet.	
5th May 1885	Well under construction.	2·33	5·33	Well not cleared	Rain-gauges have lately been put up in this block, so that the rainfall is not known for last year. The catchment areas in which these wells are situated are fairly clothed with a stunted growth of dasan, ber, babul, arinja, khejra, and khirni.
13th ,, 1885		2·41	5·33	.....	
20th ,, 1885		2·64	5 66	6·60	
27th ,, 1885		2·63	5·91	6 91	
3rd June 1885		3·21	3" water only	Well very nearly dry.	
10th ,, 1885		3·16	Dry	7·50	
17th ,, 1885		3·16	.....	7·66	
24th ,, 1885		3 33	.....	.....	
1st July 1885		2 91	3 33	5·66	
8th ,, 1885		2·72	Dry	6·91	
15th ,, 1885		1·25	4·99	4·91	
22nd ,, 1885		1·25	4·99	4 91	
29th ,, 1885		1·58	3·68	.....	
Average		2·52	6·99	5·39	

AJMERE SUB-DIVISION.

Forest Revenue for the year 1885-86.

Budget Heads.	Mohwa Bir and Madar Hill.	Taragurh Valleys.	Nag Pahar.	Srinagar and Bir.	Rajoni.	Danta.	Rajgurh.	Makerwali Hokran.	Shikast Masjid.	Ajmere Nursery.	General.	Total.	Remarks.
	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	
Ie Grass and minor produce	...	...	...	164 14 3	...	104 6 10	...	...	...	...	...	269 5 1	
IIb Firewood and charcoal	187 6 0	21 0 0	257 6 0	84 6 0	37 12 0	63 4 0	9 2 6	...	1 12 0	3 6 0	...	655 2 6	
IId Grass and grazing	668 2 2	110 8 0	912 6 0	101 0 0	7 4 6	15 4 0	20 8 0	...	28 0 0	17 2 0	...	1,878 13 8	
IIe Minor produce	26 6 0	38 0 0	417 8 0	83 9 0	...	...	...	...	6 0 0	...	...	581 9 0	
Va Fines and forfeitures	98 13 3	33 8 9	96 4 3	100 1 3	27 7 6	17 7 6	11 6 9	67 11 6	2 6 6	3 9 6	...	447 11 3	
Ve Miscellaneous	...	...	5 13 0	...	...	2 9 0	5 3 0	...	...	20 13 0	...	34 5 0	
TOTAL	978 14 5	203 0 9	1,687 15 3	533 14 6	72 8 0	201 14 10	37 4 3	67 11 6	39 2 6	44 7 6	...	3,866 13 6	

Expenditure.

Budget Heads.	Mohwa Bir and Madar Hill.	Taragurh Valleys.	Nag Pahar.	Srinagar and Bir.	Rajoni.	Danta.	Rajgurh.	Makerwali Hokran.	Shikast Masjid.	Ajmere Nursery.	General.	Total.	Remarks.
A—Conservancy and Works.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	
Ie Grass and minor produce	...	...	...	6 14 4	...	23 9 9	...	...	...	...	...	30 8 1	
VIb Feed and keep of cattle	...	...	14 3 1	...	...	...	...	1 3 10	...	19 3 4	...	34 10 3	
VIc Stores, tools, and plant	...	...	...	0 3 6	...	...	0 3 6	...	...	...	1 1 6	1 8 6	
VIIa Roads and bridges	...	...	...	...	...	0 11 0	...	...	...	...	...	0 11 0	
VIIb Buildings	...	...	...	0 2 0	...	...	...	0 3 0	...	38 5 3	...	38 10 3	
VIIc Other works ,,	69 5 1	...	0 7 0	...	...	53 7 8	105 1 11	...	...	0 13 6	36 11 11	255 14 7	
VIIIa Demarcation	...	...	0 4 0	0 10 5	0 10 5	9 15 5	1 2 6	2 10 0	...	...	2 0 6	6 4 9	
VIIId Pay of mallies and bhisties	...	31 15 0	249 8 0	75 1 5	...	...	...	...	59 6 3	197 13 0	...	613 11 8	
Plantations. Watering apparatus	...	0 1 0	8 4 9	1 9 9	...	0 5 9	...	...	2 0 0	3 14 0	...	16 3 3	778 13 3
Sowing operations	4 2 0	...	4 1 6	7 11 0	...	9 3 3	...	10 10 0	...	...	13 3 0	48 14 9	
Planting trees	8 14 0	...	1 6 0	15 11 0	0 6 0	18 14 0	3 13 6	30 3 6	...	20 12 6	...	99 15 6	
VIIIe Fire-protection	20 0 0	20 7 11	20 7 11	...	36 6 10	20 4 10	...	...	...	...	...	117 11 6	
VIIIf Fencing and other works	...	0 6 0	...	21 9 4	...	0 5 6	610 8 0	203 5 6	...	...	...	836 2 4	
IXe Miscellaneous	0 8 0	...	...	...	...	...	...	...	...	...	41 1 0	41 9 0	
TOTAL	102 13 1	52 13 11	298 10 3	129 8 9	37 7 3	127 13 2	720 11 11	249 3 10	61 6 3	280 13 1	84 1 11	2,144 7 5	
B—Establishments.													
Ib Pay of Superior Officers	...	...	...	...	...	...	...	...	...	...	4,278 9 2	4,278 9 2	
Ic Pay of Sub. Forest Establishment	172 11 3	120 14 7	148 1 7	304 7 2	147 12 1	84 12 0	148 9 7	75 13 10	...	...	621 4 3	1,824 6 3	
Id Pay of Office Establishment	...	...	...	...	...	...	...	...	...	...	675 8 10	675 8 10	
IIb Travelling allowances of Superior Officers	...	...	...	...	...	...	...	...	...	...	1,131 4 8	1,131 4 8	
IIc Ditto Sub. Establishment	...	...	...	...	...	...	...	...	...	...	91 5 0	91 5 0	
IId Ditto Office Establishment	...	...	...	...	...	...	...	...	...	...	34 11 3	34 11 3	
IIIa Country stationery	...	...	...	...	...	...	...	...	...	...	15 15 6	15 15 6	
IIIb Carriage of tents and records	...	...	...	...	...	...	...	...	...	...	96 10 9	96 10 9	
IIIc Rents, rates, and taxes	...	...	...	...	...	...	...	...	...	...	180 0 0	180 0 0	
IIIe Official postage	...	...	...	...	...	...	...	...	...	...	54 8 0	54 8 0	
IIIf Sundries	...	...	...	...	...	...	...	...	...	...	140 15 3	140 15 3	
TOTAL	172 11 3	120 14 7	148 1 7	304 7 2	147 12 1	84 12 0	148 9 7	75 13 10	...	..	7,320 12 7	8,533 14 8	
GRAND TOTAL	275 8 4	173 12 6	446 11 10	433 15 11	185 3 4	212 9 2	869 5 6	324 1 8	61 6 3	280 13 1	7,404 14	10,668 6 1	

MERWARA SUB-DIVISION.

Forest Revenue for the year 1885-86.

Budget Heads.	Chang Tract.	Hattun and Sheopura.	Biliawas.	Todgurh.	Dilwara and Chang Birs.	Ans Pahar.	Borwar Kotra.	Dewair Tract.	Amner Tract.	Banjari Mandlan.	Beawar Nursery.	General.	Total.	Remarks.
	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	
Ib Firewood and charcoal	100 0 0	...	...	2,639 8 3	...	...	...	...	...	...	...	...	2,739 8 3	
IIa Timber	7 7 0	3 12 0	...	18 5 0	...	...	3 10 0	...	...	...	...	...	33 2 0	
IIb Firewood and charcoal	80 9 0	44 2 0	62 2 0	1,106 4 0	...	4 2 0	117 8 6	...	...	...	...	...	1,414 11 6	
IIe Bamboos	...	...	...	53 9 6	...	...	...	...	...	...	...	...	53 9 6	
IId Grass and grazing	...	37 2 0	223 1 0	465 11 0	101 8 6	...	8 10 0	337 15 3	...	...	...	...	1,173 15 9	
IIe Minor produce	...	...	0 15 0	36 9 6	...	9 7 9	...	23 0 0	18 14 6	...	43 9 6	...	132 8 3	
Va Fines and forfeitures	34 3 6	18 14 0	4 8 0	62 11 3	15 0 0	4 13 6	48 15 3	19 1 3	24 4 0	35 4 0	6 5 0	2 2 6	276 2 3	
Ve Miscellaneous	...	...	...	1 8 0	...	...	4 13 0	...	1 8 0	...	...	...	7 13 0	
TOTAL	222 3 6	103 14 0	290 10 0	4,393 2 6	116 8 6	18 7 3	183 8 9	380 0 6	44 10 6	35 4 0	49 14 6	2 2 6	5,930 6 6	

Expenditure.

Budget Heads.	Chang Tract.	Hattun and Sheopura.	Biliawas.	Todgurh.	Dilwara and Chang Birs.	Ans Pahar.	Borwar Kotra.	Dewair Tract.	Amner Tract.	Banjari Mandlan.	Beawar Nursery.	General.	Total.	Remarks.
A—Conservancy and Works.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	
Ib Firewood and charcoal	...	...	...	1,168 9 1	...	...	0 11 0	...	...	...	...	...	1,169 4 1	
II Produce removed by purchasers	...	...	...	...	...	...	...	77 0 0	...	...	...	...	77 0 0	
VIb Feed and keep of cattle	...	...	...	...	...	...	...	...	...	...	11 3 9	...	11 3 9	
VIc Stores, tools, and plant	...	...	...	...	...	...	0 3 0	...	...	...	...	27 14 8	28 1 8	
VIIa Roads and bridges	5 12 8	...	...	...	...	16 0 0	...	...	...	...	...	...	21 12 0	
VIIb Buildings	...	...	...	6 0 0	...	8 0 0	1 10 0	0 8 0	...	...	...	0 3 0	16 5 0	
VIIIa Demarcation	0 11 0	0 2 8	0 14 8	0 11 0	...	0 2 8	1 3 0	...	18 14 0	19 2 0	...	...	41 13 0	
VIIId Plants-tions. Pay of mallies and bhisties	...	...	...	...	...	...	...	...	...	...	240 0 0	...	240 0 0	
VIIId Plants-tions. Watering apparatus	...	...	...	...	0 4 0	...	...	...	...	...	22 1 0	...	22 5 0	290 1 9
VIIId Plants-tions. Sowing operations	...	...	...	...	...	...	...	0 2 6	...	...	...	0 11 0	0 13 6	
VIIId Plants-tions. Planting trees	9 6 0	...	...	2 0 0	...	...	...	2 0 0	...	...	3 9 3	...	16 15 3	
VIIIe Fire protection	...	...	...	63 13 0	...	...	...	10 10 2	10 10 2	10 10 2	...	...	85 11 6	
VIIIf Fencing and other works	...	...	...	...	...	...	...	...	117 13 5	191 12 9	...	...	309 10 2	
IXa Refunds	...	8 4 0	...	0 2 0	...	...	2 8 0	...	...	...	...	...	10 14 0	
IXe Miscellaneous	...	...	...	...	...	...	...	...	...	...	...	3 5 0	3 5 0	
TOTAL	15 13 0	8 6 8	0 14 8	1,241 3 1	0 4 0	24 2 8	6 3 0	90 4 8	147 5 7	221 8 11	276 14 0	32 1 8	2,065 1 11	
B—Establishments.														
Ic Pay of Sub Forest Establishment	191 4 0	149 0 6	202 11 3	651 7 6	73 13 3	154 8 3	247 5 6	345 0 0	75 6 9	140 14 3	...	893 10 7	3,125 1 10	
Id Pay of Office Establishment	...	...	...	...	...	...	...	...	...	...	...	298 3 6	298 3 6	
IIc Travelling allowance of Sub. Establishment	...	...	...	...	...	...	...	...	...	...	...	149 1 0	149 1 0	
IId " " office "	...	...	...	...	...	...	...	...	...	...	...	66 0 0	66 0 0	
IIIc Country stationery	...	...	...	...	...	...	...	...	...	...	...	11 0 0	11 0 0	
IIId Carriage of tents and records	...	...	...	...	...	...	...	...	...	...	...	57 1 6	57 1 6	
IIIe Official postage	...	...	...	...	...	...	...	...	...	...	...	10 1 0	10 1 0	
IIIf Sundries	...	...	...	...	...	...	...	...	...	...	...	18 7 6	18 7 6	
TOTAL	191 4 0	149 0 6	202 11 3	651 7 6	73 13 3	154 8 3	247 5 6	345 0 0	75 6 9	140 14 3	...	1,503 9 1	3,735 0 4	
GRAND TOTAL	207 1 0	157 7 2	203 9 11	1,892 10 7	74 1 3	178 10 11	253 8 6	435 4 8	222 12 4	362 7 2	276 14 0	1,535 10 9	5,800 2 3	